Practitioner's Docket N... MET-041424C004 Application No. 10/807,936

Page 1 of 15

CLAIMS

1. An electronic access control device comprising:	
a circuit having a portion deactivated during a first time period;	
- the portion of the circuit enabled during a second time period.	
 the portion of the circuit having an enable output signal generated in response 	: 10
as sensed electromagnetic signal:	
the portion of the circuit being enabled for an extended time period that is gre	ater
than the second time period:	
the portion of the circuit having an input code output generated in response to	the
electromagnetic signal and during the extended time periodi	
a microprocessor having an unlock output signal generated if the input code	
mutches the access code; and	
an electromechanical driver having an output signal generated in response to t	he
unlock signal.	
2. The device of claim 1, the portion of the circuit comprising a wake up circuit.	
3. The device of claim 1. the portion of the circuit comprising a receiver.	
2. The device of children is the portion of the circuit comprising a receiver.	
+. The device of claim 1, the portion of the circuit comprising a wake up circuit of	and
# receiver	жты
5. The device of claim 1, the portion of the circuit comprising an antenna.	
6. The device of claim 1, further comprising at least one of the following is	
responsive to the output signal of the electrochemical driver: a solonoid; an	
electromechanical relay; a DC motor: and, a solid state relay.	
7. The device of claim-1, wherein the electromagnetic signal is infrared.	
8 The device of claim I, wherein the electromagnetic cional is within a radio	
8 The device of claim 1, wherein the electromagnetic signal is within a radio frequency.	
nuquency.	
9 . An apparatus comprising:	
a first circuit comprising an oscillator and having a first circuit output signal:	
a second circuit enabled and disabled in response to the first circuit output sign	1
the second circuit having a second circuit output signal generated in response to receip	ब्रोड, • क्रा
m electromagnetic signal:	(0)
u third circuit remporurily enabled during the receipt of the electromagnetic	
signal, the eircuit having a third circuit output signal comprising an input code generate	
n response to receipt of an electromagnetic signal;	.0
a fourth circuit temporarily applied to compare the input and to	
a fourth circuit temporarily enubled to compare the input code to an access code and;	3 4
an electromechanical driver having an output that is provided to an unlock devi-	
The input code mulches the access under	E O

Practitioner's Docket Inc. MET-041424C004 Application No. 10/807,936

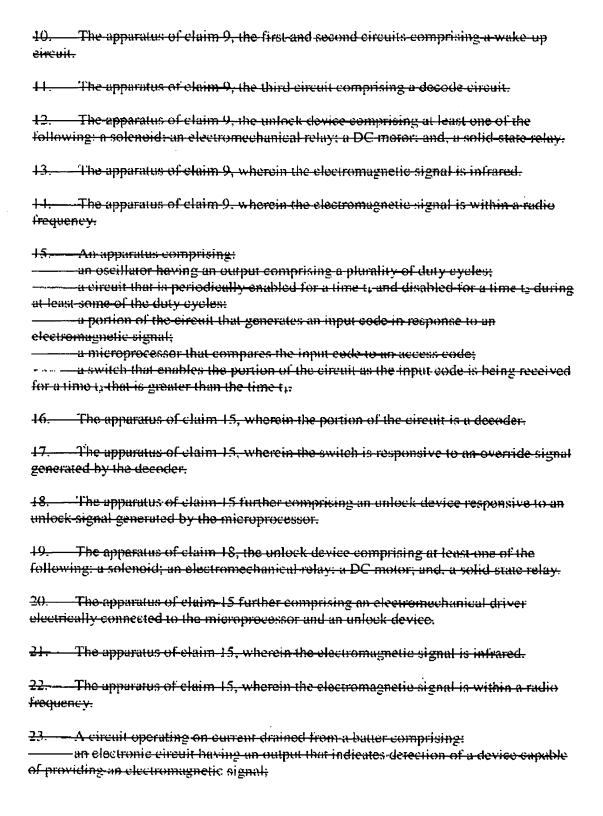
Page 1 of 15

CLAIMS

	- An electronic access control device comprising:
	a circuit having a portion deactivated during a first time period:
	the portion of the circuit enabled during a second time period.
-	the portion of the circuit having an enable output signal generated in response to
ns-sur	ased electromagnetic signal:
	the portion of the circuit being enabled for an extended time period that is greater
than t	he second time period:
	the portion of the circuit having an input code output generated in response to the
electr	omagnetic signal and during the extended time period:
	a microprocessor having an unlock output signal generated if the input code
matel	nes the access code; and
	-m electromechanical-driver having an output-signal generated in response to the
	k signal.
2, —	The device of claim-1, the portion of the circuit comprising a wake up circuit,
3	The device of claim 1, the portion of the circuit comprising a receiver.
4	The device of claim 1, the portion of the circuit comprising a wake up circuit and
a rec e	i ver.
5.	The device of claim 1, the portion of the circuit comprising an antenna.
<u>د</u>	- The device of claim-1. further comprising at least one of the following is
racnoi	wive to the output signal of the electrochemical driver: a solenoid; an
	omechanical relay: a DC motor: and, a solid state relay.
Ciccin	Since number relay: a toto metox: vale, a sone state lengy.
7	The device of claim-1, wherein the electromagnetic signal is infrared.
•	
8	The device of claim 1, whorein the electromagnetic signal is within a radio
freque	
9	An annatureide
7.	An apparatus comprising:
_	a first circuit comprising an oscillator and having a first circuit output signal:
	a second errouit enabled and disabled in response to the first circuit output signal,
	cond circuit having a second circuit output signal generated in response to receipt of
na ele	stromagnotie signat;
. ,	a third circuit temporarily enabled during the receipt of the electromagnetic
ສາຂາແປ .	the circuit having a third circuit output signal comprising an input code generated
m res ţ	oonse to receipt of an electromagnetic signal;
	a fourth circuit temporarily enabled to compute the input code to an access code:
and,	
	an electromechanical driver having an output that is provided to an unlock device
7 7 15 /5 .	139111 COVIA PAULABOU II SO ALEANAN AND IN

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936

Page 2 of 15



Practitioner's Docket No. MET-041424C004 Page 3 of 15 Application No. 10/807,936 --a-decoder that extract: an input code transmitted vin the electromagnetic signal: a switch that, in response to an input, increases the current drained from the battery: an electronic circuit that compares the input code to an access code: an electronic circuit-that provides an output to an unlock device if the input code matches the access code; and, wherein the switch decreases the current drained from the battery after receiving the input wede. 24. The circuit of claim 23, the electronic circuit that provides the output to the unlock device comprises a microprocessor. The circuit of claim 23, the electronic circuit that provides the output to the unlock device comprising an electromechanical driver. The circuit of claim 23, the circuit that compares the input code to an access code comprising a microprocessor. The circuit of claim 23, the unlock device comprising at least one of the following: a solenoid; an electromechanical relay; a DC motor; and, solid-state relay. 28. The circuit of claim 23, wherein the electromagnetic signal is infrared. The circuit of claim 23, wherein the electromagnetic signal is within a radio frequency. The device of claim 1 wherein the microprocessor is periodically enabled. 31. An electronic access control device comprising: a circuit having a portion deactivated during a first time period; the portion of the circuit enabled during a second time period, the portion of the circuit having an enable output signal generated in response to as sensed electromagnetic signal; the portion of the circuit being enabled for an extended time period that is greater than the second time period; the portion of the circuit having an input code output generated in response to the

a microprocessor having an unlock output signal generated if the input code

electromagnetic signal and during the extended time period;

matches the access code:

	titioner's Docket 150. MET-041424C004 lication No. 10/807,936	Page 4 of 15
	an electromechanical driver having an output signal generated in	response to the
unlo	ck signal; and.	
The (device of claim 1 further comprisinga keypad operatively connec	ted to the
micro	oprocessor.	
32.	An electronic access control device comprising:	
	a circuit having a portion deactivated during a first time period;	
	the portion of the circuit enabled during a second time period.	
	the portion of the circuit having an enable output signal generated	in response to
as se	nsed electromagnetic signal;	
	the portion of the circuit being enabled for an extended time perio	d that is greater
<u>than j</u>	the second time period;	
	the portion of the circuit having an input code output generated in	response to the
electi	romagnetic signal and during the extended time period;	
	a microprocessor having an unlock output signal generated if the i	nput code
<u>matel</u>	hes the access code;	
	an electromechanical driver having an output signal generated in r	esponse to the
<u>unloc</u>	k signal; and.	
The c	levice of claim 1 further comprisinga program key operatively co	onnected to the
micro	pprocessor.	
33.	An electronic access control device comprising:	
	a circuit having a portion deactivated during a first time period;	
	the portion of the circuit enabled during a second time period,	
	the portion of the circuit having an enable output signal generated	in response to
us_scπ	sed electromagnetic signal:	
	the portion of the circuit being enabled for an extended time period	l that is greater
than t	he second time period:	
	the portion of the circuit having an input code output generated in	response to the
electro	omagnetic signal and during the extended time period;	

Practitioner's Docket Inc. MET-041424C004 Page 5 of 15 **Application No. 10/807,936** a microprocessor having an unlock output signal generated if the input code matches the access code: an electromechanical driver having an output signal generated in response to the unlock signal; and, The device of claim 1 further comprising___a low-battery detection circuit enabled by the microprocessor for measuring a battery voltage, and wherein the low-battery detection circuit is disabled during the first time period. 34. An electronic access control device comprising: a circuit having a portion deactivated during a first time period; the portion of the circuit enabled during a second time period. the portion of the circuit having an enable output signal generated in response to as sensed electromagnetic signal; the portion of the circuit being enabled for an extended time period that is greater than the second time period: the portion of the circuit having an input code output generated in response to the clectromagnetic signal and during the extended time period; a microprocessor having an unlock output signal generated if the input code matches the access code; an electromechanical driver having an output signal generated in response to the unlock signal; and, The device of claim I wherein the electromechanical driver has a first state and a second state, the driver output signal providing a higher-lower non-zero power output in the first second state than in the second first state, and a timer for triggering a transition from the first state to the second state. 35. An electronic access control device comprising: a circuit having a portion deactivated during a first time period; the portion of the circuit enabled during a second time period.

as sensed electromagnetic signal;

the portion of the circuit having an enable output signal generated in response to

Practitioner's Docket (no. MET-041424C004 Page 6 of 15 Application No. 10/807,936 the portion of the circuit being enabled for an extended time period that is greater than the second time period; the portion of the circuit having an input code output generated in response to the electromagnetic signal and during the extended time period: a microprocessor having an unlock output signal generated if the input code matches the access code; an electromechanical driver having an output signal generated in response to the unlock signal; and, The device of claim 1 further comprising __a communication port operatively connected to the microprocessor for sending the access code to the microprocessor that is written into a memory. 36. The device of claim 35 wherein the microprocessor is programmed to receive a serial number for the device through the communication port and write the serial number into the memory. 37. The device of claim 36 wherein the microprocessor transmits the serial number through the communication port. The device of claim 1-further comprising a communication port operatively connected to the microprocessor, and wherein the microprocessor is programmed to transmit the access code through the communication port. 39. The apparatus of claim 9, the fourth circuit comprising a microprocessor. 40. An apparatus comprising: a first circuit comprising an oscillator and having a first circuit output signal; a second circuit enabled and disabled in response to the first circuit output signal,

an electromagnetic signal;

the second circuit having a second circuit output signal generated in response to receipt of

Practitioner's Docket No. MET-041424C004 Page 7 of 15 Application No. 10/807,936 a third circuit temporarily enabled during the receipt of the electromagnetic signal, the circuit having a third circuit output signal comprising an input code generated in response to receipt of an electromagnetic signal; a fourth circuit temporarily enabled to compare the input code to an access code; an electromechanical driver having an output that is provided to an unlock device if the input code matches the access code; and, The apparatus of claim 9 further comprising a keypad operatively connected to the fourth circuit comprising a microprocessor. 41. An apparatus comprising: a first circuit comprising an oscillator and having a first circuit output signal; a second circuit enabled and disabled in response to the first circuit output signal, the second circuit having a second circuit output signal generated in response to receipt of an electromagnetic signal; a third circuit temporarily enabled during the receipt of the electromagnetic signal, the circuit having a third circuit output signal comprising an input code generated in response to receipt of an electromagnetic signal; a fourth circuit temporarily enabled to compare the input code to an access code; an electromechanical driver having an output that is provided to an unlock device if the input code matches the access code; and, The apparatus of claim 9, the fourth circuit comprising a microprocessor and a program key operatively connected to the microprocessor. 42. An apparatus comprising: a first circuit comprising an oscillator and having a first circuit output signal; a second circuit enabled and disabled in response to the first circuit output signal, the second circuit having a second circuit output signal generated in response to receipt of an electromagnetic signal; a third circuit temporarily enabled during the receipt of the electromagnetic signal, the circuit having a third circuit output signal comprising an input code generated

in response to receipt of an electromagnetic signal;

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936	Page 8 of 15
a fourth circuit temporarily enabled to compare the input of	code to an access code;
an electromechanical driver having an output that is provi	ded to an unlock device
if the input code matches the access code; and.	
The apparatus of claim-9. the fourth circuit comprising a micropro	ocessor and a low-
battery detection circuit enabled by the microprocessor for measur	ring a battery voltage,
and wherein the low-battery detection circuit is periodically disab	=
43. An apparatus comprising:	
a first circuit comprising an oscillator and having a first circ	rcuit output signal;
a second circuit enabled and disabled in response to the fir	st circuit output signal,
the second circuit having a second circuit output signal generated	in response to receipt of
an electromagnetic signal;	
a third circuit temporarily enabled during the receipt of the	electromagnetic
signal, the circuit having a third circuit output signal comprising a	n input code generated
in response to receipt of an electromagnetic signal;	
a fourth circuit temporarily enabled to compare the input compare	ode to an access code;
an electromechanical driver having an output that is provid	led to an unlock device
if the input code matches the access code; and,	
The apparatus of claim 9, the fourth circuit comprising a micropro-	cessor and wherein the
electromechanical driver has a first state and a second state, the dri	ver output providing a
higher non-zero power output in the first state than in the second st	tate, and a timer for
triggering a transition from the first state to the second state.	
44. An apparatus comprising:	
a first circuit comprising an oscillator and having a first circ	cuit output signal;
a second circuit enabled and disabled in response to the firs	t circuit output signal,
the second circuit having a second circuit output signal generated in	n response to receipt of
an electromagnetic signal;	
a third circuit temporarily enabled during the receipt of the	electromagnetic
signal, the circuit having a third circuit output signal comprising an	input code generated
in response to receipt of an electromagnetic signal;	-

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936	Page 9 of 15
a fourth circuit temporarily enabled to compare the input code to a	n access code;
an electromechanical driver having an output that is provided to ar	unlock device
if the input code matches the access code; and,	
The apparatus of claim 9, the fourth circuit comprising a microprocessor h	laving a
communication port for sending an access code to the microprocessor that	is written into
a memory.	
45. The apparatus of claim 44 wherein the microprocessor is programm	ned to receive a
scrial number through the communication port and write the serial number	into the
memory.	
46. An apparatus comprising:	
a first circuit comprising an oscillator and having a first circuit out	put signal;
a second circuit enabled and disabled in response to the first circuit	output signal,
the second circuit having a second circuit output signal generated in respon	nse to receipt of
an electromagnetic signal;	
a third circuit temporarily enabled during the receipt of the electron	nagnetic
signal, the circuit having a third circuit output signal comprising an input of	ode generated
in response to receipt of an electromagnetic signal;	
a fourth circuit temporarily enabled to compare the input code to ar	naccess code;
an electromechanical driver having an output that is provided to an	unlock device
if the input code matches the access code;	
the fourth circuit comprising a microprocessor having a communication	ation port for
sending an access code to the microprocessor that is written into a memory	<u>.</u>
the microprocessor is programmed to receive a serial number through	gh the

The appuratus of claim 45 wherein __the microprocessor transmits the serial number

communication port and write the social number into the memory; and.

through the communication port.

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936

Page 10 of 15

47:- The apparatus of claim-9, the fourth circuit comprising a microprocessor having a
communication port operatively connected thereto- and wherein the microprocessor is
programmed to transmit the access code through the communication port.
48. The apparatus of claim 15 wherein the microprocessor is poriodically onabled.
49. An apparatus comprising:
an oscillator having an output comprising a plurality of duty cycles:
a circuit that is periodically enabled for a time t ₁ and disabled for a time t ₂ during
at least some of the duty cycles:
a portion of the circuit that generates an input code in response to an
electromagnetic signal;
a microprocessor that compares the input code to an access code:
a switch that enables the portion of the circuit as the input code is being received
for a time t ₃ that is greater than the time t ₁ ; and,
The apparatus of claim 15 further comprisinga keypad operatively connected to
the microprocessor.
•
50. An apparatus comprising:
an oscillator having an output comprising a plurality of duty cycles;
a circuit that is periodically enabled for a time 11 and disabled for a time 12 during
at least some of the duty cycles;
a portion of the circuit that generates an input code in response to an
electromagnetic signal;
a microprocessor that compares the input code to an access code;
a switch that enables the portion of the circuit as the input code is being received
for a time t3 that is greater than the time t1; and,
The apparatus of claim 15 further comprisinga program key operatively connected
to the microprocessor.

51. An apparatus comprising:

Page 11 of 15

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936	Page 11 of 15
an oscillator having an output comprising a plurality of c	luty cycles;
a circuit that is periodically enabled for a time t ₁ and disa	abled for a time t2 during
at least some of the duty cycles;	
a portion of the circuit that generates an input code in res	sponse to an
electromagnetic signal:	
a microprocessor that compares the input code to an acce	ess code:
a switch that enables the portion of the circuit as the inpu	n code is being received
for a time t3 that is greater than the time t1; and.	
The apparatus of claim 15 further comprising a low-batter	y detection circuit
enabled by the microprocessor for measuring a battery voltage, a	and wherein the low-
battery detection circuit is periodically disabled and enabled.	
52. An apparatus comprising:	
an oscillator having an output comprising a plurality of d	uty cycles:
a circuit that is periodically enabled for a time t ₁ and disa	bled for a time to during
at least some of the duty cycles;	
a portion of the circuit that generates an input code in res	ponse to an
electromagnetic signal;	
a microprocessor that compares the input code to an acce	ss code;
a switch that enables the portion of the circuit as the inpu	t code is being received
for a time t3 that is greater than the time t1; and,	
The apparatus of claim 15 further comprisingan electrome	echanical driver
operatively connected to the microprocessor, the driver having a	first state and a second
state, and an output signal providing a higher non-zero power ou	tput in the first state than
in the second state, and a timer for triggering a transition from th	e first state to the second
state.	
53. An apparatus comprising:	
an oscillator having an output comprising a plurality of de	ity cycles;
a circuit that is periodically enabled for a time t ₁ and disal	oled for a time to during
at least some of the duty cycles:	

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936	Page 12 of 15
a portion of the circuit that generates an input code in response to	<u>an</u>
electromagnetic signal;	
a microprocessor that compares the input code to an access code;	
a switch that enables the portion of the circuit as the input code is	being received
for a time t3 that is greater than the time t1; and,	
The device of claim 15 further comprising _a communication port operat	ively connected
to the microprocessor for sending the access code to the microprocessor th	at is written
into a memory.	
54. The device of claim 53 wherein the microprocessor is programmed	l to receive a
serial number for the device through the communication port and write the	serial number
into the memory.	
55. The device of claim 54 wherein the microprocessor transmits the se	erial number
through the communication port.	
56 The device of alains 15 further manifests and a second	
56. The device of claim 15 further comprising a communication port of	•
connected to the microprocessor, and wherein the microprocessor is progra	HHIDOC (O
transmit the access code through the communication port.	•
57. The device of claim 23, the electronic circuit that compares the inp	ut code to the
access code comprising a microprocessor that is periodically enabled.	at enderto me
acosis ovac comprising a microprocessor than a periodically entoice.	
58. A circuit operating on current drained from a battery comprising:	
an electronic circuit having an output that indicates detection of a d	cvice capable
of providing an electromagnetic signal;	
a decoder that extracts an input code transmitted via the electromag	netic signal:
a switch that, in response to an input, increases the current drained	
battery;	

an electronic circuit that compares the input code to an access code;

Practitioner's Docket 150. MET-041424C004 Page 13 of 15 Application No. 10/807,936 an electronic circuit that provides an output to an unlock device if the input code matches the access code; wherein the switch decreases the current drained from the battery after receiving the input code; and, The circuit of claim 23-further comprising a keypad operatively connected to the comparing circuit comprising a microprocessor. 59. A circuit operating on current drained from a battery comprising: an electronic circuit having an output that indicates detection of a device capable of providing an electromagnetic signal: a decoder that extracts an input code transmitted via the electromagnetic signal; a switch that, in response to an input, increases the current drained from the battery; an electronic circuit that compares the input code to an access code; an electronic circuit that provides an output to an unlock device if the input code matches the access code; wherein the switch decreases the current drained from the battery after receiving the input code; and, The circuit of claim 23, _____the comparing circuit comprising a microprocessor and a program key operatively connected to the microprocessor. 60. A circuit operating on current drained from a battery comprising: an electronic circuit having an output that indicates detection of a device capable of providing an electromagnetic signal; a decoder that extracts an input code transmitted via the electromagnetic signal; a switch that, in response to an input, increases the current drained from the battery; an electronic circuit that compares the input code to an access code;

matches the access code;

an electronic circuit that provides an output to an unlock device if the input code

Practitioner's Docket 110. MET-041424C004 Application No. 10/807,936

Page 14 of 15

wherein the switch decreases the current drained from the battery after receiving
the input code; and.
The circuit of claim 23,the comparing circuit comprising a microprocessor and a
low-battery detection circuit enabled by the microprocessor for measuring a voltage
associated with the battery, and wherein the low-battery detection circuit is periodically
disabled and enabled.
•
61. A circuit operating on current drained from a battery comprising:
an electronic circuit having an output that indicates detection of a device capable
of providing an electromagnetic signal;
a decoder that extracts an input code transmitted via the electromagnetic signal;
a switch that, in response to an input, increases the current drained from the
battery;
an electronic circuit that compares the input code to an access code;
an electronic circuit that provides an output to an unlock device if the input code
matches the access code;
wherein the switch decreases the current drained from the battery after receiving
the input code; and.
The circuit of claim 23,the comparing circuit comprising a microprocessor and
wherein the circuit providing the output to the unlock device comprising an
electromechanical driver having a first state and a second state, the driver output
providing a higher non-zero power output in the first state than in the second state, and a
timer for triggering a transition from the first state to the second state.
and an all and a second of the second of the second state.
62. A circuit operating on current drained from a battery comprising:
an electronic circuit having an output that indicates detection of a device capable
of providing an electromagnetic signal;
a decoder that extracts an input code transmitted via the electromagnetic signal:
a switch that, in response to an input, increases the current drained from the
battery;
an electronic circuit that compares the input code to an access code:

Practitioner's Docket No. MET-041424C004 Application No. 10/807,936

Page 15 of 15

an electronic circuit that provides an output to an unlock device if the input code
matches the access code;
wherein the switch decreases the current drained from the battery after receiving
the input code; and,
The sircuit of claim 23,the comparing circuit comprising a microprocessor having
a communication port for sending the access code to the microprocessor that is written
into a memory.

- 63. The circuit of claim 62 wherein the microprocessor is programmed to receive a serial number through the communication port and write the serial number into the memory.
- 64. The circuit of claim 63 wherein the microprocessor transmits the serial number through the communication port.
- 65. The circuit of claim 23, the comparing circuit comprising a microprocessor having a communication port operatively connected thereto, and wherein the microprocessor is programmed to transmit the access code through the communication port.